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Wallach

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[54] **RETAIL FLOOR MAT DISPLAY SYSTEM**

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[51] **Int. Cl.**[5] **B65D 85/18**

[52] **U.S. Cl.** **206/286**; 206/284; 206/806; 383/39; 383/40

[58] **Field of Search** 206/282, 284, 286, 287, 206/335, 806; 383/37, 39, 40; 190/109, 111; 223/91, 96

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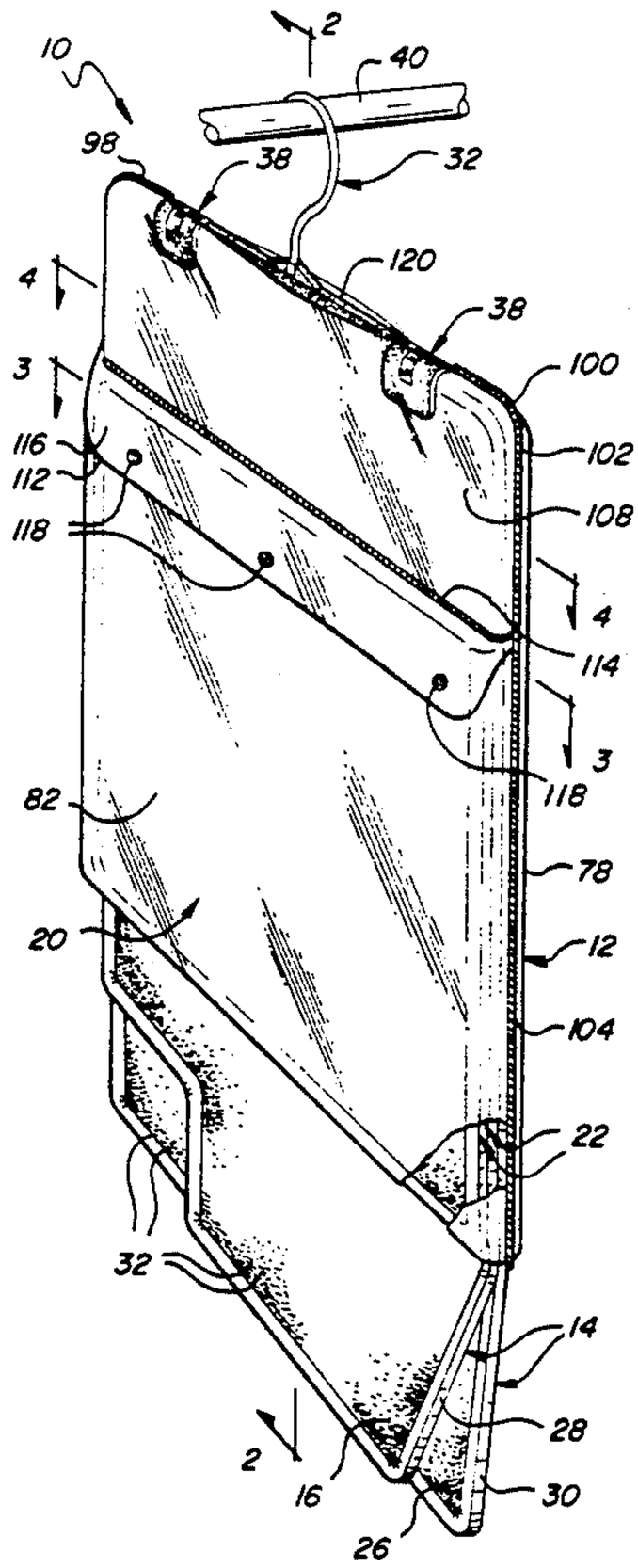
[57] **ABSTRACT**

A system (**10**) for displaying four-piece automotive floor mat sets (**14, 22**). The display system comprises a first envelope (**12**) with a bottom opening (**70**) for receiving and covering the two larger front floor mats (**14**) and a second envelope, or pocket, (**20**) with a top opening (**76**) for receiving and holding the smaller rear floor mats (**22**). The second envelope (**20**) is piggy-backed on the first envelope (**12**). A clamp hanger (**32**) grips the larger pair of floor mats (**14**) and suspends them from a display bar (**40**). The remainder of the package (**10**) suspends from the larger floor mats (**14**). The envelopes (**12, 20**) comprise transparent plastic.

15 Claims, 3 Drawing Sheets



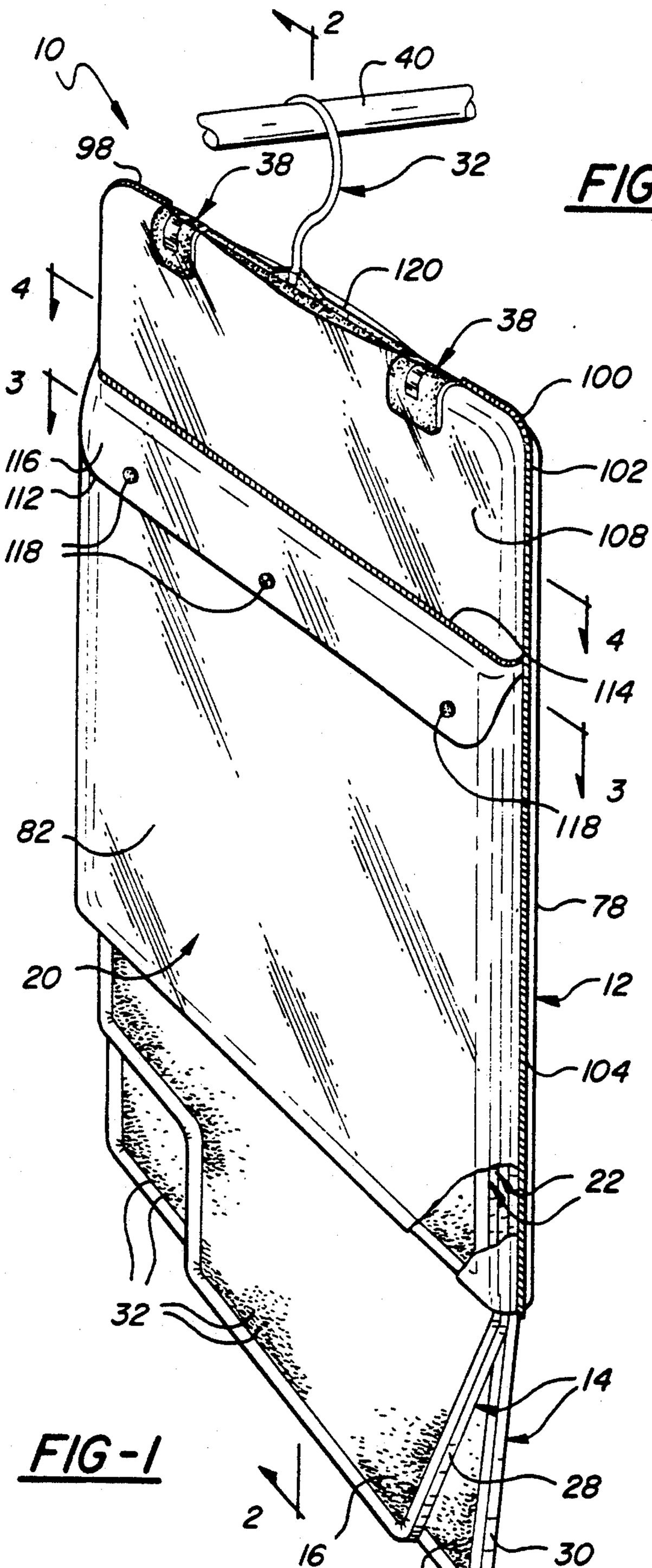

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FIG-1

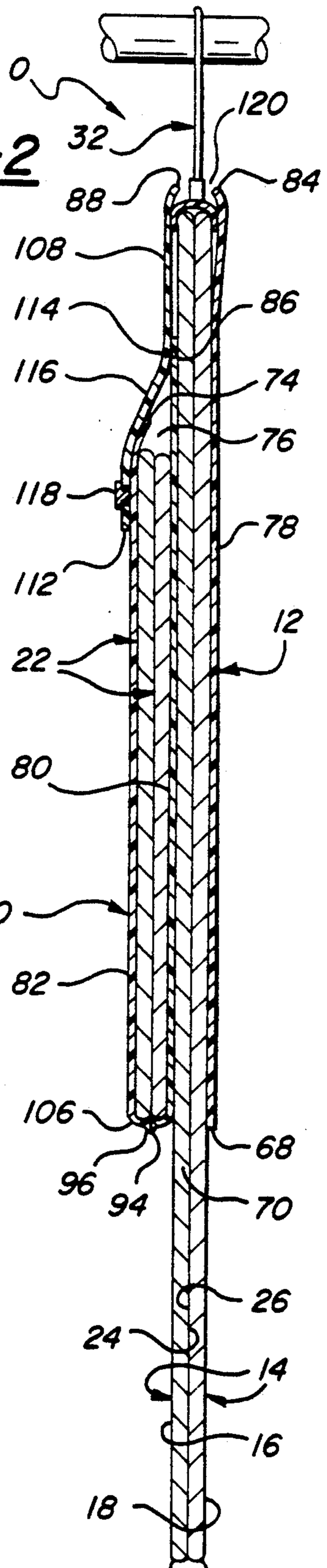
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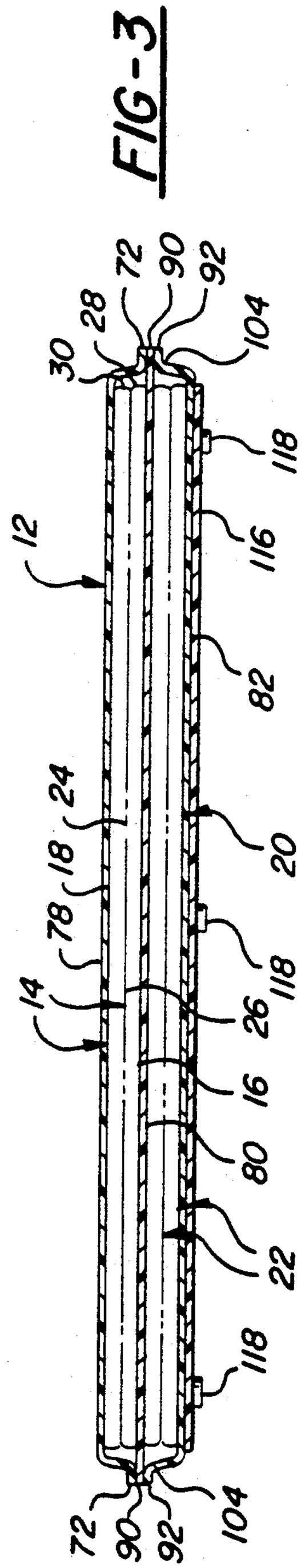
FIG-2

FIG-3



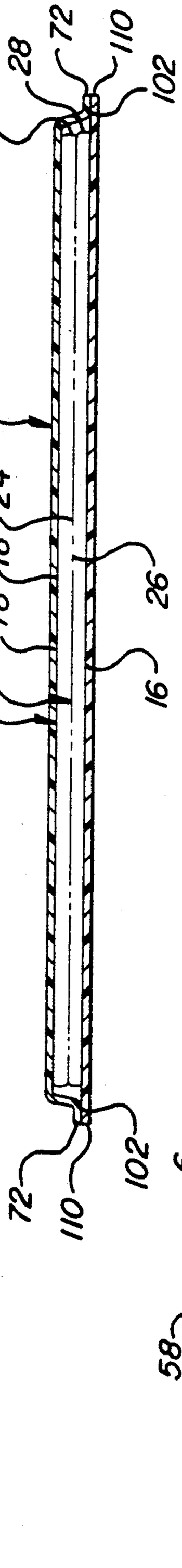


FIG-4

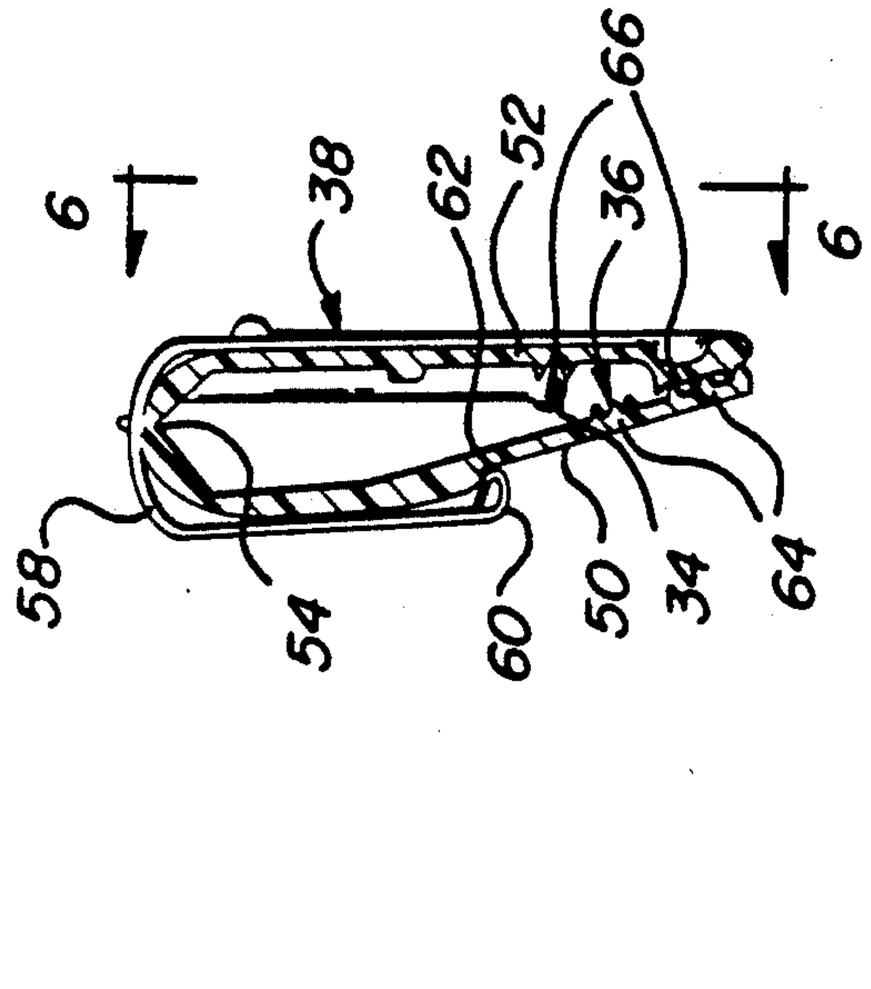


FIG-7

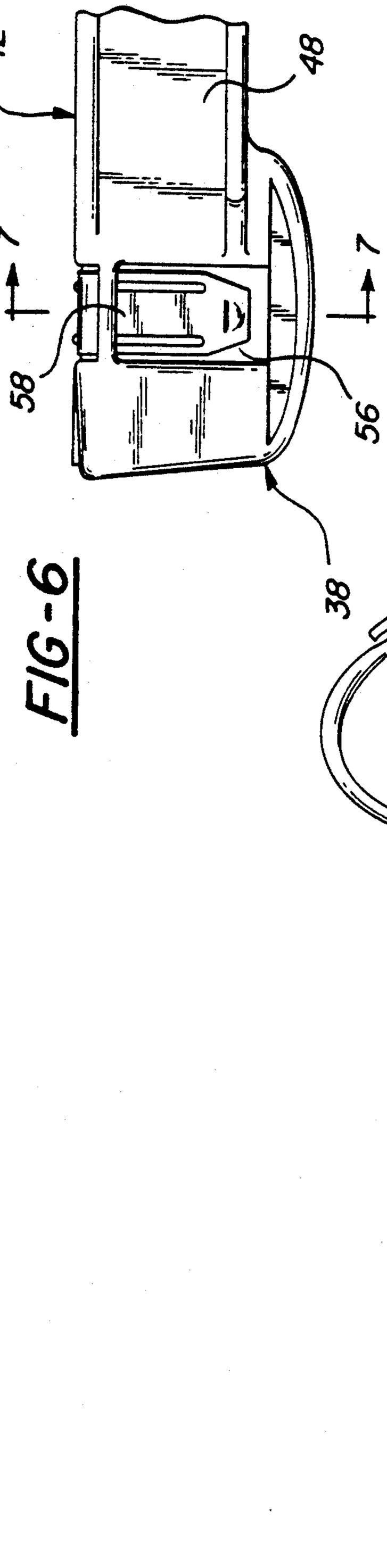


FIG-6

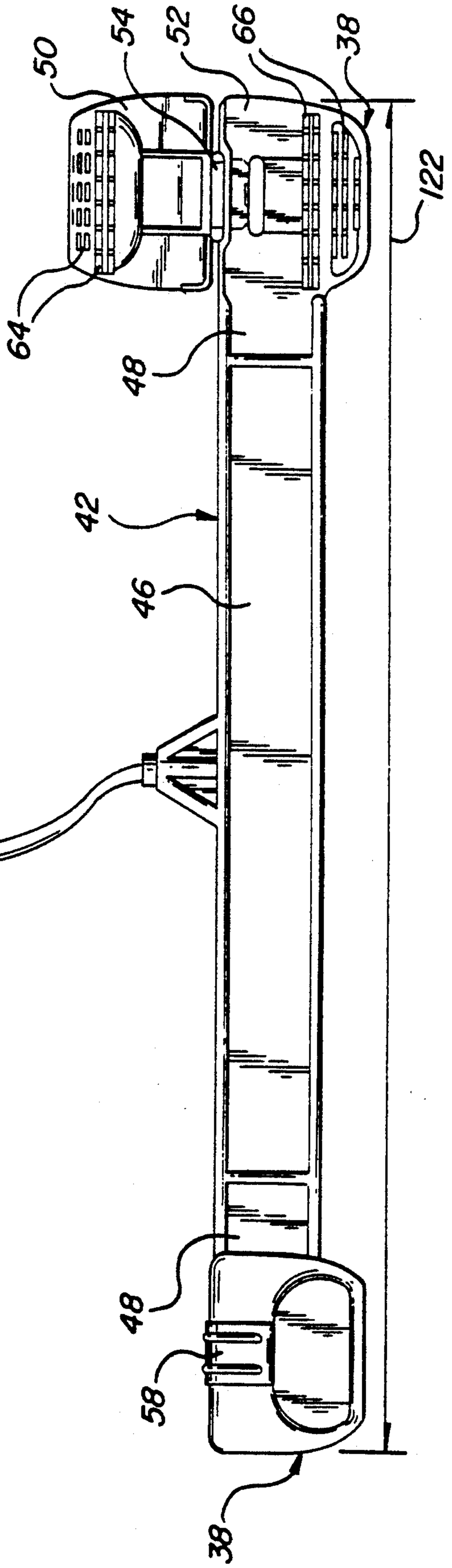


FIG-5

RETAIL FLOOR MAT DISPLAY SYSTEM

TECHNICAL FIELD

This invention relates to packaging systems for displaying automobile floor mats.

BACKGROUND ART

Automotive floor mat manufacturers need effective ways to package and market their products. One important measure of an effective floor mat display is its ability to hold the floor mats together and protect them in shipping and handling. Another important measure is the package's ability to display the mats and their main selling features to retail customers.

Currently, floor mat manufacturers use staples to join floor mat sets. Staples are difficult to remove and damage the mats they penetrate.

For example, U.S. Pat. No. 4,856,654 to Reuben, issued Aug. 15, 1989, discloses a system for displaying two-mat sets. The packaging system includes a hanger for suspending the floor mat package from a display bar. A single pouch is attached alongside the floor mats for holding certain accompanying fastening components. Staples penetrate the mats, the pouch, and the hanger. The staples serve to hold the mats, pouch and hanger together but also damage the mats. The staples must be forcibly extracted using tools such as pliers, or a screwdriver. In addition, this system is unable to handle four-piece floor mat sets since staples will not penetrate a stack of four mats.

SUMMARY OF THE INVENTION AND ADVANTAGES

A display package for displaying fourpiece automotive floor mat sets. The display package comprises a first envelope and a first pair of floor mats disposed in a layered disposition within the first envelope. A second envelope, or pocket, is piggy-backed on the first envelope and a second pair of floor mats is disposed in a layered disposition within the second envelope. The display package is characterized by clamping means having opposing clamping surfaces for bracketing the first pair of mats and exerting generally opposing forces perpendicular to the outside surfaces of the first pair of floor mats. The opposing forces increase the friction between the first pair of floor mats and also between the clamping surfaces and the first pair of floor mats' outside surfaces. The increased friction secures the first pair of floor mats in relation to each other and in relation to the clamping means without penetrating the first pair of floor mats.

This system uses the compressive force of the clamping means to hold the first pair of floor mats together and to connect the package to its hanger for display. There are no staples to remove and no perforation damage to the floor mats. The clamping means therefore suspend and display the first pair and second pair of floor mats in a generally vertical orientation.

BRIEF DESCRIPTION OF THE DRAWINGS

To better understand and appreciate the advantages of this invention, refer to the following detailed description in connection with the accompanying drawings:

FIG. **1** is a rear, partially broken-away, perspective view of the retail floor mat display system including four floor mats disposed inside two adjacent envelopes;

FIG. **2** is a cross-sectional side view taken substantially along lines **2—2** of FIG. **1**;

FIG. **3** is a cross-sectional view taken substantially along lines **3—3** of FIG. **1**;

FIG. **4** is a cross-sectional view taken substantially along lines **4—4** of FIG. **1**;

FIG. **5** is a side view of the clamp hanger with one plastic clamp open and the other plastic clamp closed;

FIG. **6** is a fragmentary rear view taken substantially along line **6—6** of FIG. **7**;

FIG. **7** is a cross-sectional view taken substantially along line **7—7** of FIG. **6**.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

A system for displaying a four-piece automotive floor mat set is generally shown at **10** in FIGS. **1** and **2**. The display package **10** comprises a first envelope generally indicated at **12** with a first pair of large floor mats each of which is generally indicated at **14**, disposed in a layered disposition within the first envelope **12** The first pair of floor mats **14** have outside surfaces **16**, **18**. A second envelope, or pocket, generally indicated at **20** is piggy-backed on the first envelope **12**. A second pair of floor mats each of which is generally indicated at **22**, is disposed in a layered disposition within the pocket **20**. The mats **22** of the second pair are smaller than the mats **14** of the first pair. The first pair of mats **14** are for the front of a vehicle and the second pair of mats **22** are for the smaller area between the front and rear seats of a vehicle.

Each of the first pair of mats **14** has a front surface **18** and **24**, respectively. Each of the mats **14** has a back surface **16** and **26**, respectively. Each of the mats **14** has a perimeter edge **28** and **30**, respectively. The front surfaces **18**, **24** comprise low-pile carpet. The back surfaces **16**, **26** comprise rubber or plastic surfaces which incorporate thousands of small nubs **32**, with approximately ten nubs **32** per square inch of surface. The rubber nubs **32** are integrally joined to the rubber back surfaces **16**, **26** of the first pair of mats **14**. The rubber nubs **32** are roughly conical in shape with rounded tips. The perimeter edges **28**, **30** comprise a serged binding. The first pair of mats **14** are cut and tapered to conform to the approximate dimensions of the front passenger compartment floor of a passenger vehicle. The second pair of mats **22** are identical to the first pair of mats **14** except that the second pair of mats **22** are shorter than the first pair of mats **14** and are rectangular in shape.

A clamping means generally indicated at **32** in FIGS. **1** and **2**, and generally shown at **32** in FIG. **5** is for displaying the first and second pair of floor mats **14**, **22** in a generally vertical orientation. The clamping means **32** has opposing clamping surfaces generally indicated at **34** and **36** in FIG. **7** which bracket the first pair of mats **14** and exert generally opposing forces perpendicular to the outside surfaces **16**, **18** of the first pair of mats **14**. The clamping surfaces **34**, **36** are disposed within each of two clamps generally indicated at **38** in FIG. **5**. The generally opposing forces increase the friction between the inner surfaces **24**, **26** of the first pair of mats **14** and also between the clamping surfaces **34**, **36** and the outside surfaces **16**, **18** of the first two floor mats **14**. This secures the first pair of floor mats **14** in relation to each other and in relation to the clamping means **32** without penetrating the first pair of mats **14**. The nubs **32** on the back surface **26** of the front mat of the first pair of mats **14** embed in the carpet pile on the front

surface **24** of the back mat of the first pair of mats **14** increasing the friction effect the clamping means **32** creates. The clamping means **32** thereby suspends both pairs of mats **14**, **22**, in a generally vertical orientation, from a display bar **40**.

The clamping means **32** comprises a clamping hanger including a plastic shoulder bar generally indicated at **42** and a metal hook **44** rotatably connected to the shoulder bar **42** midway along the length of the shoulder bar **42**, and the pair of clamps **38** disposed at opposite ends of the shoulder bar **42**. The shoulder bar **42** comprises an elongated I-beam **46** including ends **48** integrally merging into the clamps **38**. The clamps **38** each form the approximate shape of open clamshells having upper and lower shell portions **50**, **52** hinged at their interfaces. The lower shell portions **52** are fixed relative to the I-beam **46**. The upper shell portions **50** pivot downwardly about hinges **54** at the interfaces between the upper shells **50** and lower shells **52**. The hinges **54** comprise narrowed portions of plastic adjacent the top edge of the shoulder bar **42**. In other words, the narrowed portions serve as "living hinge" type clamp hinges. The exterior of each plastic clamp **38** includes rectangular channels **56**. Mounted in these channels **56** are metal U-clips **58**, one U-clip **58** on each plastic clamp **38**. The U-clips **58** comprise flat, elongated, metal strips bent into U-shapes and curled at the lower-front ends **60**. The channels **56** are slightly wider than the U-clips **58** and hold the U-clips **58** in position while accommodating vertical sliding motion of the U-clips **58**. On the outer surface of the clamps **38** are ledges, or "drop-offs" **62** which engage and retain the curled portions **60** of each U-clip **58** at the limit of their downward travel.

When pushed downward, the U-clips **58** releasably force the plastic clamps **38** into a closed, clamped position around the first pair of mats **14**. The clamping surfaces **34**, **36** within the plastic clamps **38** comprise two double rows, each, of tooth-like protrusions **64**, **66** extending outwardly from the inner clamping surfaces **34**, **36** of the plastic clamps **38**. The tooth-like protrusions **64**, **66** engage the nubs **32** on the back surface **16** of the back mat in the first pair of floor mats **14**, and also engage the front surface **18** of the front mat in the first pair of floor mats **14**. The engagement of the protrusions **64**, **66** with the nubs **32** and the front surface **18** increases the friction resulting from the compression from the clamps **38**. The combination of all the friction forces effectively prevents external torsion and shear forces, i.e. those forces resulting from gravity and normal consumer handling and inspection, from disengaging the first pair of mats **14** from the clamping hanger **32**.

The first envelope **12** has a bottom edge **68** and a first access opening **70** disposed adjacent the bottom edge **68** to receive the first pair of mats **14** from below. The first envelope also has side edges **72**. The pocket **20** has a top edge **74** and a second access opening **76** disposed adjacent the top edge **74** to receive the second pair of mats **22** from above.

The second envelope, or pocket, **20** encloses a smaller volume than the first envelope **12** since the pocket **20** encloses the smaller rear mats **22** of a passenger vehicle. The pocket **20** is disposed flush with the bottom edge **68** of the first envelope **12**. The pocket **20** is also disposed adjacent the side edges **72** of the first envelope **12**. The overall length of the display package **10** is such as to allow approximately one third of the length of the first pair of mats **14** to protrude through the first access opening **70**.

The first envelope comprises a rectangular front panel **78** and a middle panel **80**. The second envelope, or pocket, comprises a middle panel **80** in common with the first envelope and a back panel **82**. The front panel **78** is rectangular with rounded top corners. The middle **80** and back panels **82** are rectangular. The panels **78**, **80**, **82** each have respective top edges **84**, **86**, **74**, a pair of side edges **72**, **90**, **92** and bottom edges **68**, **94**, **96**. The panels **78**, **80**, **82** are bonded together along at least two edges and forming common seams **98**, **100**, **102**, **104**, **106**. More specifically, the front panel **78**, middle panel **80** and back panel **82** are bonded along the length of the side edges **90** of the middle panel **80** forming common lower side seams **104**. The middle panel **80** and the back panel **82** are bonded along the length of their respective bottom edges **94**, **96** forming a common bottom seam **106**.

An upper back panel **108** has a top edge **88** a pair of side edges **110**, and a bottom edge **112**. The upper back panel **108** extends from the top edge **86** of the middle panel **80** upwardly to the top edge **84** of the front panel **78**. The top edge **88** of the upper back panel **108** is bonded to the top edge **84** of the front panel **78** forming a common top seam **98**, **100** The side edges **110** of the upper back panel **108** are bonded to the side edges **72** of the front panel **78** forming common upper side seams **102**. The bottom edge **112** of the upper back panel **108** is bonded to the top edge **86** of the middle panel **80** forming a common middle seam **114**.

A flap **116** is disposed adjacent the second access opening **76** and includes fastening means **118** for releasably joining the flap **116** to the back panel **82**. The flap **116** is an elongated rectangle with rounded lower corners. The length of the flap **116** is the same as the width of the back panel **82** and the upper back panel **108**. The width of the flap **116** is sufficient to extend across the second access opening **76**. The flap **116** is long enough to cover the second access opening **76** and then overlap the back panel **82**. The overlapping portion of flap **116** includes the fastening means **118**. The fastening means **118** comprises three plastic snaps spaced evenly along the length of the flap **116**.

In the preferred embodiment depicted in FIGS. **1**, **2**, **3** and **4**, the upper back panel **108** and the flap **116** comprise a single panel with the flap **116** extending downwardly from the common middle seam **114**. In this preferred embodiment the upper back panel **108** extends from the top edge **84** of the front panel **78** downwardly to a point where it bonds with the top edge **86** of the middle panel **80** then down another approximate two inches, forming a flap **116** over the upper access opening **76** of the pocket **20**. The upper back panel **108** is bonded to the top edge **86** of the middle panel **80** forming a common middle seam **114** approximately two inches above, and parallel to the bottom edge **112** of the upper back panel **108**. In other words, the flap **116** extends downwardly from the common middle seam **114** and extends over the second access opening **76**.

The panels **78**, **80**, **82**, **108** and flap **116** comprise thin transparent plastic of approximately 8 microns in thickness.

The first envelope **12** includes a top opening **120**. The shoulder bar **42** of the clamping hanger **32** has a span **122**. The hook **44** on the clamping hanger **32** extends upwardly through the top opening **120** of the first envelope **12**. The top opening **120** is less than one span **122** in

length. In other words, the length of the top opening **120** is less than the length of the shoulder bar **42** of the clamping hanger **32**. The top opening **120** is narrow, elongated and rectangular in shape. The top opening **120** is cut from the upper back panel **108** and runs parallel to and adjacent the top edge **84** of the front panel **78**.

The common seams **98, 100, 102, 114, 104, 106** can be heat-fused, crimped interfaces or other suitable type of bonded interfaces. All common seams with the exception of the common middle seam **114** protrude outwardly. The edges that join at the common middle seam **114** are opposing and overlapping.

Therefore, the first envelope **12** is open at the top and bottom and is hung vertically by the clamping means **32** forcibly engaging the first pair of mats **14** covered by the first envelope **12**. A pair of smaller mats **22** is disposed in a pocket **20**, having a closed bottom, on the side of the first envelope **12**.

This is an illustrative description of the invention using words of description rather than limitation.

Obviously, many modifications and variations of this invention are possible in light of the above teachings. Within the scope of the claims, where reference numerals are merely for convenience and are not limiting, one may practice the invention other than as this specification describes.

I claim:

1. A system (**10**) for displaying a four-piece automotive floor mat set (**14,22**), said display system comprising: a first envelope (**12**) and a first pair of floor mats (**14**) disposed in a layered disposition within said first envelope (**12**) said first pair of floor mats (**14**) having outside surfaces (**16, 18**); a second envelope (**20**) and a second pair of floor mats (**22**) disposed in a layered disposition within said second envelope (**20**); characterized by clamping means (**32**) for displaying said first pair of floor mats (**14**) in a generally vertical orientation, said clamping means (**32**) having opposing clamping surfaces (**34, 36**) for bracketing said first pair of mats (**14**) and exerting generally opposing forces perpendicular to said outside surfaces (**16, 18**) of said first pair of floor mats (**14**) to increase the friction between said first pair of floor mats (**14**) and also between said clamping surfaces (**34, 36**) and said outside surfaces (**16, 18**) of said first two floor mats (**14**) to secure said first pair of floor mats (**14**) in relation to each other and in relation to said clamping means (**32**) without penetrating said first pair of floor mats (**14**); and attaching means (**74, 92, 96**) for attaching said second envelope (**20**) to said first envelope (**12**) independent of said opposing forces of said clamping means (**32**).

2. A display package (**10**) as set forth in claim **1** further characterized by said first envelope (**12**) having a bottom edge (**68**) and a first access opening (**70**) disposed adjacent said bottom edge (**68**) to receive said first pair of floor mats (**14**) from below.

3. A display package (**10**) as set forth in claim **2** further characterized by said second envelope (**20**) having a top edge (**74**) and a second access opening (**76**) disposed adjacent said top edge (**74**) to receive said second set of floor mats (**22**) from above.

4. A display package (**10**) as set forth in claim **1** further characterized by first envelope comprising a front panel (**78**) and a middle panel (**80**) and said second envelope comprising a middle panel (**80**) in common with said first envelope and a back panel (**82**), said panels (**78, 80, 82**) each having respective top edges (**84, 86, 74**), a pair of side edges (**72, 90, 92**) and bottom edges (**68, 94, 76**), said panels (**78, 80, 82**) bonded together at least two edges and forming common seams (**98, 100, 114, 104, 106**).

5. A display package (**10**) as set forth in claim **4** further characterized by said first envelope (**12**) including a top opening (**120**) and by said clamping means (**32**) comprising a clamping hanger (**32**) having a hook (**44**) and a shoulder bar (**42**) disposed perpendicular to said hook (**44**) and said shoulder bar (**42**) having a span (**122**), said hook (**44**) extending upwardly through said top opening (**120**), said top opening (**120**) being less than one span (**122**) in length.

6. A display package (**10**) as set forth in claim **3** further characterized by a flap (**116**) adjacent said second access opening (**76**) and fastening means (**118**) for releasably joining said flap (**116**) to said back panel (**82**).

7. A display package (**10**) as set forth in claim **6** further characterized by said fastening means (**118**) comprising a plastic snap.

8. A display package (**10**) as set forth in claim **5** further characterized by said second envelope (**20**) enclosing a smaller volume than said first envelope (**12**), said second envelope (**20**) for enclosing the smaller rear floor mats (**22**) of a passenger vehicle.

9. A display package (**10**) as set forth in claim **8** further characterized by said smaller second envelope (**20**) disposed flush with said bottom edge (**68**) of said first envelope (**12**).

10. A display package (**10**) as set forth in claim **9** further characterized by an upper back panel (**108**), said upper back panel (**108**) having a top edge (**88**) a pair of side edges (**110**) and a bottom edge (**112**), said upper back panel (**108**) extending from said top edge (**86**), of said middle panel (**80**) upwardly to said top edge (**84**) of said front panel (**78**) with said top edge (**88**) of upper back panel (**108**) bonded to said top edge (**84**) of said front panel (**78**) forming a common top seam (**98, 100**) and said side edges (**110**) of said upper back panel (**108**) bonded to said side edges (**72**) of said front panel (**78**) forming common upper side seams (**102**) and said bottom edge (**112**) of said upper back panel (**108**) bonded to said top edge (**86**) of said middle panel (**80**) forming a common middle seam (**114**).

11. A display package (**10**) as set forth in claim **10** further characterized by said upper back panel (**108**) and said flap (**116**) comprising a single panel, said flap (**116**) extending downwardly from said common middle seam (**114**).

12. A display package (**10**) as set forth in claim **11** further characterized by said panels (**78, 80, 82, 108**) comprising a plastic material.

13. A display package (**10**) as set forth in claim **12** further characterized by said panels (**78, 80, 82, 108**) comprising a transparent material.

14. A display package (**10**) as set forth in claim **13** further characterized by said common seams (**98, 100, 102, 114, 104, 106**) comprising heat-fused interfaces.

15. A display package (**10**) as set forth in claim **13** further characterized by said common seams (**98, 100, 102, 114, 104, 106**) comprising glued interfaces.

* * * * *